

In re Patent Application Serial No. 10/603,967
Jeffrey H. Bailey

Page 12

REMARKS

Applicants appreciate the attention of the Examiner to the application. The Office Action of the Examiner of October 5, 2004 has been reviewed with care in the preparation of this response. The amendments above and the following remarks are believed to be fully responsive to this action.

Status of Claims

Claims 1, 5-21, as presented by the above amendment, are pending. The pending claims set forth a novel and non-obvious aerial work apparatus. Allowance of all pending claims is respectfully requested in view of the above amendment and the following remarks.

Claims 15-17, 19 and 20 were rejected under 35 U.S.C. §102(e) as being anticipated by Engvall et al (U.S. Patent No. 6,439,341). Claims 15, 19 and 20 were rejected under 35 U.S.C. §102(e) as being anticipated by Weyer (U.S. Patent No. 6,585,079). Claims 1-6 and 10-14 were rejected under 35 U.S.C. §103(a) as being unpatentable over Weyer in view of either Finley et al. (U.S. Patent No. 4,456,093) or Priestley et al. (U.S. Patent No. 6,405,114). Claims 1-8 and 12-14 were rejected under 35 U.S.C. §103(a) as being unpatentable over Engvall et al. in view of either Finley et al. or Priestley et al. Claims 7-9 were rejected under 35 U.S.C. §103(a) as being unpatentable over Weyer in view of either Finley et al. or Priestley et al. as applied to claim 1 and further in view of Williams (U.S. Patent No. 4,345,539). Claim 9 was rejected under 35 U.S.C. §103(a) as being unpatentable over Engvall et al. in view of either Finley et al. or Priestley et al. as applied to claim 1 and further in view of Williams. Claims 16-18 were rejected under 35 U.S.C. §103(a) as being unpatentable over Weyer in view of Williams. Claim 18 was rejected under 35 U.S.C. §103(a) as being unpatentable over Engvall et al. in view of Williams.

Applicant thanks the Examiner for the telephonic interview with counsel on February 28, 2005. A discussion was held during this interview regarding a proposed amendment to the pending claims with changes in particular to independent claims 1 and 15. In light of this

In re Patent Application Serial No. 10/603,967
Jeffrey H. Bailey

Page 13

discussion and the comments made by the Examiner regarding further amendment, Applicant has prepared and hereby submits the above amendment to the claims.

Applicant is also submitting an amendment to the specification to correct certain inconsistencies in the description of the invention disclosed in the application as originally filed and to correspondingly improve the clarity of the specification. In particular, the amendment changes the term used for a feature found in certain embodiments of the invention from "support column" to the more appropriate "holding column." The amendment also achieves consistency throughout the specification with respect to the load-sensing mechanism measuring the platform load and to the load-sensing mechanism alone fully supporting the platform.

Both amendments are fully supported by the specification to the application and do not include any new matter. The claims as amended are patentably distinguishable over the prior art and the Engvall and Weyer references in particular. Applicant now turns to the particular points raised by the Examiner in the Office Action of October 5, 2004.

Rejection of Claim 15 under 35 U.S.C. §102(b)

Claim 15 was rejected under 35 U.S.C. §102(b) as being anticipated by both Engvall and Weyer. Claims 16-21 are dependent to claim 15. Anticipation requires that the identical invention to that contained in a claim be described in a single prior art reference. Richardson v. Suzuki Motor Co., 868 F.2d 1226, 9 USPQ 2d 1913 (Fed. Cir. 1989). Claim 15, as amended, is directed to an improved aerial work apparatus having several structural features not disclosed by either of these references.

Claim 15, as amended, requires the aerial work apparatus to have a platform support member attached to the platform that rests upon the load-sensing mechanism of the apparatus in a manner that has the load-sensing mechanism fully supporting the platform. Claim 15 also requires that the load-sensing mechanism be held in position at the top of a vertical holding column at the end of the boom. Each one of these features is missing from both Engvall and Weyer.

In re Patent Application Serial No. 10/603,967
Jeffrey H. Bailey

Page 14 of 19

Unlike the apparatus claimed in the present application, Engvall discloses a work platform bracket 23 carrying the work platform 3 that is suspended from load cell 109 by means of hook 123 and sleeve 125. The load cell, hook and sleeve are part of interconnection 37 responsible for "holding up the work platform (the load support) and the load thereon." (Engvall at col. 3, lines 47-49). The platform load in Engvall is therefore being suspended below a load cell in a manner similar to how produce at a store is weighed upon a spring scale. In contrast to this approach, the platform and its load in the present invention rests upon and is supported by the load-sensing mechanism itself - very much like someone weighing themselves on a bathroom scale.

Engvall also does not show a load-sensing mechanism fully supporting the platform. Work platform bracket 23, and thereby the load in work platform 3, is supported not only by interconnection 37 but also by upper link 25 and the engagement of flanges 71 and 73 on the bracket with flanges 41 and 43 on boom bracket 21 (FIGS. 3 and 4). The reference acknowledges that the arrangement it teaches permits some up and down movement of the work platform relative to the boom. (Engvall at col. 4, lines 58-61). As a consequence, while interconnection 37 holds work platform bracket 23 in position when there is no load on the work platform so that noses 81 and 83 on flanges 71 and 73 are spaced apart from notches 51 and 53 on flanges 41 and 43, vertical movement of the platform under load can lead to the noses resting upon the notches to resist such movement by acting as stops. (Engvall at col. 5, lines 49-60).

Furthermore, there is no disclosure in Engvall of a load-sensing mechanism being held in position at the top of a vertical holding column. No holding column is shown, much less a vertical one holding the load cell in a similar vertical orientation. Quite to the contrary, the load cell in this reference is acknowledged as being held between brackets 21 and 23 at an incline off vertical. As a consequence, any tension sensed by the load cell in Engvall will always be a reading slightly more than the presumed load upon the work platform. (Engvall at col. 6, lines 17-27). This is not a problem for an aerial lift apparatus having a load-sensing mechanism held vertical upon which the platform itself is resting as set forth in amended claim 15.

In re Patent Application Serial No. 10/603,967
Jeffrey H. Bailey

Page 15

Weyer, the other cited reference, also fails to show all of the features claimed in amended claim 15. The load sensors 60 taught as part of the various embodiments disclosed in that reference are never fully supporting work platform 14, if supporting the work platform to any extent. In FIG. 3, for example, the work platform is being substantially supported by rotary actuator 42. Sensor 60 merely engages platform bracket 50 for purposes of detecting vertical movement in the work platform relative to the actuator. (Weyer at col. 6, lines 1-5). There is moreover no mechanical interaction or operational communication disclosed between rotary actuator 42 and sensor 60 as to suggest that both are needed for either or both to perform their designated functions.

In addition, a vertical holding column that is holding any of these load sensors at its top is missing in Weyer. Since the sensors in Weyer are principally strain gauges designed to detect deformation or deflection in a shaft or support when the work platform is under load and are placed in a variety of different locations, Weyer is missing any disclosure directed to a load-sensing mechanism that not only fully supports the platform but is also vertically in-line between the platform support member resting upon it and the holding column on which it is positioned.

Absent these features, the aerial lift apparatus described in amended claim 15 is not anticipated by either Engvall or Weyer. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. V. Union Oil Co. Of California, 814 F.2d 628, 631, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987). Applicant respectfully requests that amended claim 15, as well as each claim that depends from it, be allowed.

Rejection of Claim 17 under 35 U.S.C. §102(b)

Claim 17 was rejected under 35 U.S.C. §102(b) as being anticipated by Engvall. Claim 17, as amended, is dependent from new claim 21. Claim 21 is directed to the platform support member resting upon the uppermost portion of the load-sensing mechanism. Amended claim 17 further adds the limitation that the uppermost portion is a support bushing having the weight of

In re Patent Application Serial No. 10/603,967
Jeffrey H. Bailey

Page 16

the platform load applied directly to it. None of these restrictions are disclosed or suggested by Engvall.

There is no uppermost portion of the load cell 109 or the interconnection 37 in Engvall upon which the work platform rests. Engvall is also missing any uppermost portion of its load-sensing interconnection, much less anything resembling a support bushing, that fully supports the platform and does so in a manner where only the vertical component of the platform load, i.e., the weight of the platform, is applied downward upon it.

For these reasons, Applicant believes that the rejection of claim 17 in particular has been traversed by amendment and that claim 21 and each of the claims that depend from it are now in position for allowance.

Rejection of Claim 19 and 20 under 35 U.S.C. §102(b)

Claims 19 and 20 were rejected under 35 U.S.C. §102(b) as being anticipated by both Engvall and Weyer. Claim 19, as amended, is directed to at least two sleeve bearings having a pivotal engagement with the holding column that is substantially frictionless. Amended claim 20 adds the limitation that the bearings include bushings configured to permit negligible vertical frictional loading between the bearings and the holding column.

Neither Engvall nor Weyer disclose a vertical holding column. In addition, neither reference shows a structure attaching the platform to the boom in a pivotal manner where the structure includes bushings that make negligible any vertical loading between the bushings and the boom. The only direct pivotal connection between the platform and the boom in Engvall is between pin 89a of upper link 25 and pin 89b of lower link 27 and the respective sleeve 95 and eyes 107. Although bushings are provided to insure smooth rotation of the pins within these tubes, the nature of the connection with each pin and its associated tube sharing a substantially horizontal axis (as seen in FIG. 7) makes any vertical loading upon either pin non-negligible.

The only direct pivotal connection between the platform and boom in Weyer is between upper and lower links 46a, 46b and pivot joints 52a, 52b. No bushings of any sort are taught in Weyer for these pivot points and significant vertical loading will exist given the horizontal axis on both pairs of pivot joints.

In re Patent Application Serial No. 10/603,967
Jeffrey H. Bailey

Page 17

Claims 19 and 20, as amended, overcome their rejection under 35 U.S.C. §102(b) and Applicant respectfully asks that each be allowed.

Rejection of Claims 1, 5-14 under 35 U.S.C. §103(a)

Claims 1, 5-8, and 10-14 were rejected under 35 U.S.C. §103(a) as being unpatentable over either Engvall or Weyer in view of either Finley or Priestley. Claim 1 is an independent claim with claims 5-14 dependent to it.

Obviousness under 35 U.S.C. §103(a) can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Jones*, 958 F.2d 347 (Fed. Cir. 1992). In addition, any such combination or modification of the prior art must still teach or suggest each and every one of the claim limitations. MPEP §2143.

Neither Engvall nor Weyer in combination with Finley or Priestley, however, teaches or suggests all of the limitations set forth in claim 1 as amended for the reasons set forth above. In particular, none of these references, alone or in combination, disclose a vertical load-sensing mechanism having an uppermost portion upon which rests the platform of an aerial work apparatus so that the load-sensing mechanism is fully supporting the platform. None of the load-sensing devices taught in Engvall or Weyer are both vertical and positioned to not only fully support the platform by itself but to also receive the platform so that it rests upon the device's uppermost portion.

Claims 7-9 were rejected in particular under 35 U.S.C. §103(a) as being unpatentable over either Engvall or Weyer in view of either Finley or Priestley and further in view of Williams. Although Williams does teach a hydraulic load cell, there is no teaching of the use of a hydraulic load cell as part of a load-sensing mechanism fully supporting the platform. In fact, Williams teaches away from such a use since it shows only a load cell that senses the load being lifted at a distance from the load. The load cell appears to translate any strain placed on the boom by the

In re Patent Application Serial No. 10/603,967
Jeffrey H. Bailey

Page 18

load into a measure of that load. There is no supporting the load by the load cell since the load is fully supported by the boom and its attached hook and pulley assembly.

The Examiner states that modification of Engvall or Weyer to comprise a hydraulic load cell as taught by Williams to arrive at Applicant's claimed invention is somehow within the purview of a skilled artisan. Such a statement, however, is not a showing of the motivation needed to arrive at the claimed features that is to be found within the teachings of the references cited. Quite to the contrary, an explanation of how a skilled artisan can extrapolate the claimed invention from either Engvall or Weyer needs to have been set forth by the Examiner. MPEP §706.02(j).

The lack of any such explanation suggests the lack of a prima facie case of obviousness on which to justify rejections of claim 7-9 as amended. It also suggests the type of hindsight that can only be achieved when first there is disclosure by the Applicants of their invention. "To prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the examiner to show a motivation to combine the references that create the case of obviousness. In other words, the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed." In re Rouffet, 149 F. 3d 1350 at 1357-1358; 47 USPQ 2d 1453 (Fed. Cir. 1998).

For each of the reasons set forth above, claims 1, 5-14 as amended overcome their rejection under 35 U.S.C. §103(a) in the Office Action. Applicants respectfully ask therefore that these rejections be withdrawn.

Rejection of Claims 16-18 under 35 U.S.C. §103(a)

Claims 16-18 were rejected under 35 U.S.C. §103(a) as being unpatentable over either Engvall or Weyer in view of Williams. Claim 16-18 are dependent claims of independent claim 15.

In re Patent Application Serial No. 10/603,967
Jeffrey H. Bailey

Page 19

Neither Engvall nor Weyer in combination with Williams, however, teaches or suggests all of the limitations set forth in claims 16-18 as amended for the reasons set forth above with respect to amended claim 15 and to claims 7-9 as amended. Consequently, Applicant asks that the rejections of claims 16-18 and each of the claims that depend from them also be withdrawn.

Conclusion

Applicant's invention, as set forth in the amended claims, represents a novel aerial work apparatus having a highly desirable load-sensing mechanism. Applicant believes that the now pending claims 1, 5-21 have elements not disclosed or suggested in the prior art. Applicant submits that all rejections in the Office Action have been traversed by amendment and argument, placing the application in condition for allowance. Early favorable action is earnestly solicited. The Examiner is invited to call the undersigned if such would be helpful in resolving any issue which might remain.

Please debit Deposit Account 10-0270 for a two-month extension fee. If any additional fees are due please debit Deposit Account 10-0270 and inform the undersigned.

Respectfully submitted,


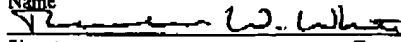


Richard W. White
Registration No. 50,601

Dated: March 7, 2004
Jansson, Shupe & Munger, Ltd.
245 Main Street
Racine, WI 53403-1034
Attorney Docket No. MLE-102US
Telephone: 262/632-6900
Telefax: 262/632-2257

CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office on the date shown below:


Name
 3/7/05
Signature Date